

Claims

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is as follows:

1. A method for identifying a firearm having a bore with a barrel and breech from which a bullet is fired, said method comprising the steps of:

- (a) entering identifying data into a computer system to identify said firearm,
- (b) storing said identifying data,
- (c) encoding said identifying data,
- (d) etching said encoded data into said bore of said firearm,
- (e) transferring said encoded data from said barrel to a surface of a slug of a bullet upon firing said bullet from said firearm,
- (f) transferring said encoded data from said breech to a surface of a casing of said bullet upon firing said bullet,
- (g) scanning said encoded data on said slug and/or casing,
- (h) decoding said encoded data scanned from said slug and/or casing to provide decoded data, and
- (i) comparing said decoded data with said stored identifying data whereby to identify said firearm from which said bullet was fired.

2. The method as claimed in claim 1 further comprising the steps of:
entering registration data into said computer system indicative of an owner of said firearm;
coupling said identifying data with said registration data, and
identifying said owner of said firearm from said decoded data.

3. The method as claimed in claim 1 wherein said step (d) includes inserting a laser etching probe into said barrel of said bore, and emitting a laser energy from said probe in response to said encoded data.

4. The method as claimed in claim 3 wherein said step further includes etching said encoded data in said barrel generally parallel to a rifling in said barrel.

5. The method as claimed in claim 1 wherein said step (d) includes inserting a laser etching probe into said breech of said bore and emitting a laser energy from said probe in response to said encoded data.

6. The method as claimed in claim 5 wherein said step further includes etching said encoded data in said breech generally parallel to a longitudinal axis of said bore.

7. An apparatus for etching the barrel and breech of the bore of a firearm with an identifying indicia for subsequent identification of the firearm from a slug or casing of a bullet fired therefrom, said apparatus comprising:

processing means for storing registration data corresponding to an owner of said firearm

and identifying data indicative of said firearm and comparing input data therewith,

means for encoding said identifying data,

means for etching said encoded identifying data in said barrel of said firearm, whereby a

slug of a bullet fired from said firearm will have markings corresponding to said

encoded data transferred to a surface of said slug from said etched barrel,

means for etching said encoded identifying data in said breech of said firearm, whereby a

casing of a bullet fired from said firearm will have markings corresponding to said

encoded data transferred to a surface of said casing from said etched breech, and

means for reading said markings and transferring said read data to said processing means

for comparison with identifying data stored therein, whereby to identify the firearm

from which the bullet was fired.

8. The apparatus as claimed in claim 7 wherein said processing means includes means for transferring said registration data and said identifying data to a central database.

9. The apparatus as claimed in claim 7 wherein said encoded data is a bar code.

10. The apparatus as claimed in claim 7 wherein said encoded data is a plurality of spaced-apart grooves.

11. The apparatus as claimed in claim 7 wherein said means for etching said encoded identifying data in said barrel includes inserting a laser probe into said barrel and emitting a laser to etch a plurality of grooves on the surface of the barrel generally parallel to a rifling in said barrel.

12. The apparatus as claimed in claim 11 wherein said probe includes a focusing mirror.

13. The apparatus as claimed in claim 11 wherein said probe includes a coolant.

14. The apparatus as claimed in claim 7 wherein said means for etching said encoded data in said breech includes inserting a laser probe into said breech and emitting a laser to etch a plurality of grooves into the surface of said breech generally parallel to a longitudinal axis of said bore.

15. The apparatus as claimed in claim 14 wherein the depth of said grooves taper from a first end to a second end of said breech.

16. The apparatus as claimed in claim 14 wherein said probe includes a focusing mirror.

17. The apparatus as claimed in claim 16 wherein said probe includes a coolant.

18. The apparatus as claimed in claim 7 wherein said means for etching includes inserting a probe into a first end of said bore, inserting a laser into a second end of said bore and focusing said laser on the surface of said bore.

19. The apparatus as claimed in claim 7 wherein said etching means comprises:

a laser etching assembly having a frame, a laser etching tube, and a laser etching tube support member, said laser etching tube rotatably secured to said laser etching tube support member, said laser etching tube support member slidably secured to said frame,

said laser etching tube having a laser probe for directing a laser beam from a laser tube at the surface of said bore,

a first stepper motor for controlling the linear movement of said laser etching tube,

a second stepper motor for controlling rotation of said laser etching tube, and

a microprocessor for controlling said stepper motors and laser beam output from said laser tube whereby said processor directs movement of said probe in said bore of said firearm in a predetermined pattern in coordination with laser output of said laser tube to etch said encoded data on the surface of said bore.

20. The apparatus as claimed in claim 19 wherein said etching means further comprises a firearm clamping means for securing said firearm in axial alignment with said laser probe.

21. The apparatus as claimed in claim 19 wherein said etching means further comprises a firearm clamping assembly for securing said firearm in axial alignment with said laser probe and having an alignment assembly and a barrel clamp releasably mounted to said alignment assembly, said alignment assembly having a clamp adjustment slide coupled to a third stepper motor to adjust the linear position of said barrel clamp in response to control signals from said microprocessor.

22. An apparatus for etching the bore of a firearm with an identifying indicia for subsequent identification of the firearm from a bullet fired therefrom, said apparatus comprising:

a laser etching assembly having a frame, a laser etching tube, and a laser etching tube support member, said laser etching tube rotatably secured to said laser etching tube support member, said laser etching tube support member slidably secured to said frame,

said laser etching tube having a laser probe for directing a laser beam from a laser tube at the surface of said bore,

means for controlling the linear and rotational movement of said laser etching tube to etch the barrel of said bore generally parallel to the rifling of said barrel and to etch the breech of said bore generally parallel to the longitudinal axis of said bore, and

a microprocessor for directing said controlling means and said laser beam output from said laser tube whereby said processor directs movement of said probe in said bore of said firearm in a predetermined pattern in coordination with said laser output of said laser tube to etch said encoded data on the surface of said bore.

23. An apparatus for scanning a slug or casing of a bullet with identifying indicia for subsequent identification of the firearm from which the bullet was fired, said apparatus comprising:

a light source for illuminating the identifying indicia,
a detector for receiving reflections of said light source from said identifying indicia,
means for securing said slug or said casing for scanning,
means for rotating said slug or casing relative to said light source and detector, and
a microprocessor for decoding said identifying indicia received from said detector for subsequent identification of said firearm.

24. The apparatus as claimed in claim 23 wherein said means for securing said slug or casing includes an ammunition rotator tip secured to said rotating means.

25. The apparatus as claimed in claim 24 wherein said ammunition rotator tip includes a plurality of fingers.

26. The apparatus as claimed in claim 23 further comprising a GPS receiver for receiving GPS data to identify the current location of said scanner.

27. The apparatus as claimed in claim 23 wherein said scanner is portable.

28. The scanner as claimed in claim 23 further comprising a cellular transmitter and receiver to transmit scanned data and to receive data.

29. The scanner as claimed in claim 26 further comprising a cellular transmitter and receiver to transmit identifying indicia data corresponding to said identifying indicia and GPS data and to receive data.

30. The apparatus as claimed in claim 23 further comprising means for calculating the probable location of a criminal suspect based on crime scene data, firearm identifying data, firearm registration data and location data.

31. The apparatus as claimed in claim 30 further comprising graphically displaying the probable locations of a criminal suspect.

32. The apparatus as claimed in claim 31 further comprising overlaying said graphical display of said probability on an electronic map.